IN THE CLAIMS:

Please cancel claims 1-2, 4-13, and 15-18 without prejudice to or disclaimer of the subject matter recited therein.

Please add new claims 23-37 as follows:

LISTING OF CURRENT CLAIMS

Claims 1-19. (Cancelled)

20. (Previously Presented) A system for RF gain control comprising:

a receiver for receiving a RF signal;

a signal-sampling device, coupled to the receiver, for retrieving a signal strength information from the RF signal;

a noise-sampling device, coupled to the receiver, for retrieving a noise information from the RF signal;

an operation unit, coupled to the receiver, the signal-sampling device and the noise-sampling device, for generating a feedback control signal according to the signal strength and noise information, wherein the operation unit provides the feedback control signal to the receiver to adjust a gain value thereof, wherein the feedback control signal is obtained by that the signal strength information and the noise information are subtracted by a first and a second predetermined thresholds respectively, and then multiplied by a first and a second predetermined transfer functions to generate a signal strength function and a noise level function respectively to output the feedback control signal according to a predetermined algorithm;

a detector, coupled to the receiver, for detecting a time interval between two contiguous frames in the RF signal and for generating a detection information; and

a first processor, coupled to the detector and the noise-sampling device, for generating a noise-sampling instruction according to the detection information to retrieve the noise information from the RF signal.

21. (Previously Presented) A system for RF gain control comprising:

a receiver for receiving a RF signal;

a signal-sampling device, coupled to the receiver, for retrieving a signal strength information from the RF signal;

a noise-sampling device, coupled to the receiver, for retrieving a noise information from the RF signal;

an operation unit, coupled to the receiver, the signal-sampling device and the noise-sampling device, for generating a feedback control signal according to the signal strength and noise information, wherein the operation unit provides the feedback control signal to the receiver to adjust a gain value thereof, wherein the feedback control signal is obtained by that the signal strength information and the noise information are subtracted by a first and a second predetermined thresholds respectively, and then multiplied by a first and a second predetermined transfer functions to generate a signal strength function and a noise level function respectively to output the feedback control signal according to a predetermined algorithm.

22. (Previously Presented) A method for gain control comprising:

receiving a RF signal;

retrieving a signal strength information from the RF signal; retrieving a noise information from the RF signal; and

adjusting a gain value according to the signal strength and noise informations, wherein the noise information is retrieved from a short inter-frame space in the RF signal, wherein the gain value is adjusted by a feedback control signal which is obtained by that the signal strength information and the noise information are subtracted by a first and a second predetermined thresholds respectively, and then multiplied by a first and a second predetermined transfer functions to generate a signal strength function and a noise level function respectively to output the feedback control signal according to a predetermined algorithm.

23. (New) The system of claim 21, further comprising:

a detector, coupled to the receiver, for detecting a time interval between two contiguous frames in the RF signal and for generating a detection information; and

a first processor, coupled to the detector and the noise-sampling device, for generating a noise-sampling instruction according to the detection information to retrieve the noise information from the RF signal.

24. (New) The system of claim 21, wherein the operation unit couples the signal strength and noise informations to generate the feedback control signal.

25. (New) The system of claim 21, wherein the frames are selected from a group consisting of request to send frame, clear to send frame, acknowledgement frame, data frame, beacon frame, poll frame, data plus poll frame, data plus acknowledgement frame, and data plus acknowledgement plus poll frame.

26. (New) The system of claim 21, wherein the time interval corresponds to a short inter-frame space.

27. (New) The system of claim 21, wherein the noise-sampling instruction is a noise gate.

28. (New) The system of claim 23, wherein if the receiver is in a state of not receiving data, the first processor inhibits the noise-sampling instruction to disable the noise-sampling device.

29. (New) The system of claim 23, wherein if the receiver is in a state of not receiving data, the first processor suspends to generate the noise-sampling instruction to disable the noise-sampling device.

30. (New) The system of claim 23, wherein the first processor is further coupled to a transmitter, and when the transmitter is in a state of transmitting data,

the first processor inhibits the noise-sampling instruction to disable the noise-sampling device.

31. (New) The system of claim 23, wherein the first processor is further coupled to a transmitter, and when the transmitter is in a state of transmitting data, the first processor suspends to generate the noise-sampling instruction to disable the noise-sampling device.

32. (New) The system of claim 23, further comprising:

a second processor, coupled to the signal-sampling device and the noise-sampling device, for generating a signal quality information according to the signal strength and noise informations.

33. (New) The system of claim 32, wherein the signal quality information is a signal-to-noise ratio.

34. (New) The method of claim 22, further comprising:

generating a signal quality information according to the signal strength and noise informations.

35. (New) The method of claim 34, wherein the signal quality information is a signal-to-noise ratio.

36. (New) The system of claim 21, wherein the feedback control signal is selected from a group consisting of a value of the signal strength function, a value of the noise level function, a sum of the signal strength function and the noise level function, and a larger of the strength function and the noise level function.

37. (New) The system of claim 36, wherein the value of the signal strength function, the value of the noise level function, the sum of the signal strength function and the noise level function, and the larger of the signal strength function and the noise level function are obtained from a predetermined algorithm that the signal

strength information and the noise information are subtracted by a first and a second predetermined thresholds respectively, and then multiplied by a first and a second predetermined transfer functions to generate the signal strength function and the noise level function respectively.